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8. Since  $(\underbrace{999\dots 9}_r)$ , is the general form of a common fraction producing a repetend of  $r$  figures, it follows that any divisor of  $(999\dots 9)_r$  is a divisor of a number if it is a divisor of the sum of its digits taken  $r$  together.

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NOTE. In a letter to the Editor, Prof. H. T. Eddy writes:—"In the very interesting Historical Sketch contained in your Sept. No. there is one omission which I feel should be supplied in the enumeration of the articles contributed to the Mathematical Monthly. I refer to Ferrel's investigations respecting the laws which govern atmospheric currents. These articles are regarded, I think, as the most important original investigations published in the Mathematical Monthly."

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### *SOLUTIONS OF PROBLEMS IN NUMBER SIX, VOL. II.*

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SOLUTIONS of problems in No. 6, Vol. II, have been received as follows:

From J. M. Arnold, 92; Prof. W. W. Beman, 93 and 94; Lieut. S. H. Baker U. S. N., 94; G. L. Dake, 92 and 95; G. M. Day, 97; Cadet E. S. Farrow, 92, 93, 94, 95 and 97; Henry Gunder, 92, 95 and 97; Christine Ladd, 93, 94 and 95; Artemas Martin, 92 and 95; Dr. A. B. Nelson, 92 and 95; O. D. Oathout, 92, and 97; Geo. H. Pegram, 95; K. M. Supten, 92 and 95; Prof. J. Scheffer, 92, 93, 94, 95 and 97; E. B. Seitz, 95 and 97; E. H. Westermann, 95; Prof. C. M. Woodward, 97.

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92.—"A balloon is ascending vertically with a given velocity  $v$ , and a body is let fall from it, which touches the ground in  $t$  seconds; find the height of the balloon at the moment the body is let fall from it."

SOLUTION BY HENRY GUNDER, NORTH MANCHESTER, IND.

In  $t$  seconds a body will fall from rest  $\frac{1}{2}gt^2$  feet. But from the conditions of the problem it ascends  $vt$  feet. Therefore it falls from a height of  $(\frac{1}{2}gt - v)t$  feet.

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93.—"To construct a triangle if the three radii of the circles, which touch the three sides externally, are given."

SOLUTION FURNISHED BY PROF. W. W. BEMAN, ANN ARBOR, MICH.

Christine Ladd writes: "The construction follows at once from the solution given by Chauvenet, 164, 12." Prof. Beman writes: "The following elegant solution of Problem 93 may be found — *in substance* — in Catalan's '*Theoremes et Problemes de Geometrie Elementaire*', page 155: